

## ABSTRACT

A golf ball containing a layer, which comprises nanosheets of exfoliated graphite dispersed in a polymeric matrix, is provided. Intercalated graphite is exfoliated by brief exposure to high heat to expand the thickness of the graphite. The expanded or exfoliated graphite is then 5 mixed with monomers and polymerized *in situ* to form a polymer with a network of nanosheets of the exfoliated graphite dispersed therein. The exfoliated graphite advantageously retains its nanostructure during the polymerization process.